REMARKS/ARGUMENTS

The present invention's object is to provide a new glucose meter which can improve the user's inconveniences when collecting a blood sample at an inside point of a forearm, which inconveniences are i) difficulty to identify numbers or icons displayed on the display panel 107 due to turning upside down of the meter body 103, and ii) excessive bending of the right hand gripping the blood glucose meter. The need to collect blood at an inside point of a forearm has arisen since collecting blood on a forearm made a patient feel less pain than in the tip of a finger. Thus, the present invention provides a new glucose meter which can collect blood on a forearm as well as in a tip of a finger without pain and ergonomic inconvenience by modifying the prior glucose meter (see page 5, line 23 ~ page 6, line 10 of the present specification).

The present glucose meter is inventive by adding to the prior normal glucose meter, an additional lower receiving hole for insertion of a measurement strip and an additional lower connector for the transmittance of an electrical signal between the measurement strip and a measurement unit or a micro-controller unit.

The operating principle of the instant dual glucose meter of the present invention is discussed referring to Fig. 6.

When one measurement strip (although the upper and the lower measurement strips seems to be different, in fact the upper and the lower are not different and may be the same) is inserted into upper receiving hole 12, the measurement strip is connected electrically to the upper connector 13, and then automatic starting signal of the instant dual glucose meter is transmitted to the micro-controller unit 17. After receiving the automatic starting signal, the micro-controller unit 17

transmits a signal indicating that measurement is possible to the upper connector 13 and simultaneously to the lower connector 15 a signal indicating that the measurement is impossible.

The same is applied in case of insertion of measurement strip into lower receiving hole.

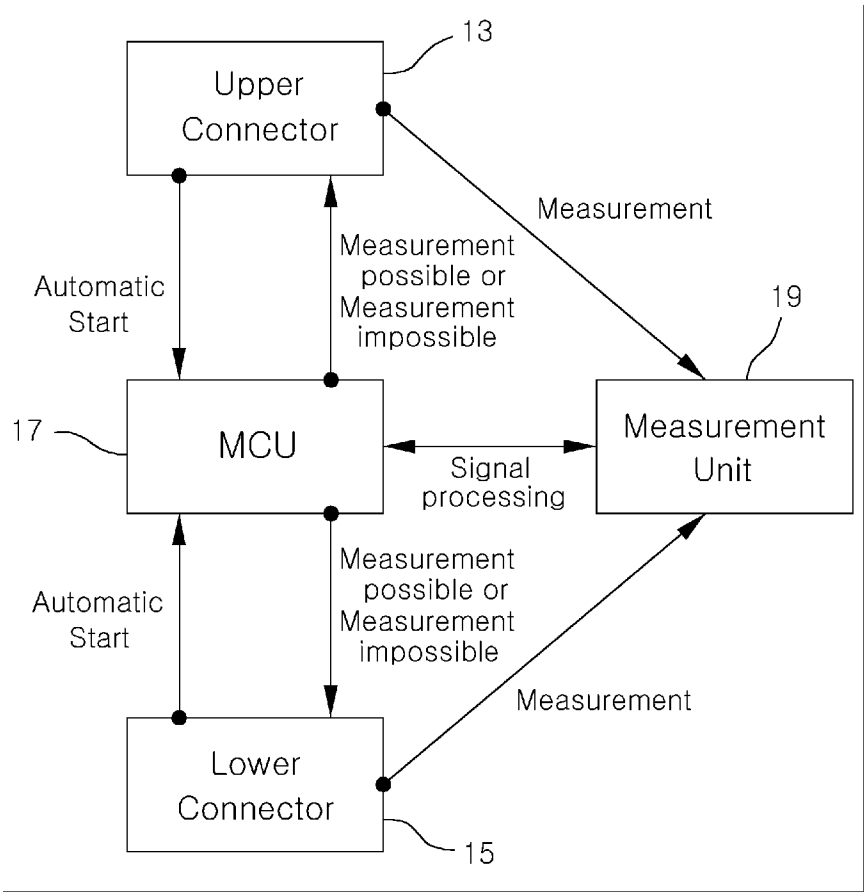

Fig. 6 of the present invention

Furthermore, if another measurement strip 5b (or 5a) is inserted into the lower connector 15 (or upper connector 13) when the measurement strip 5a (or 5b) has been inserted into the upper connector 13 (or lower connector 15), an error message is made to be displayed on the display panel 7. Namely, if two measurement strips are inserted into both receiving

holes and connected to both connectors, the glucose meter cannot measure glucose level of blood sample.

In the meantime, when blood is introduced into the inserted measurement strip, an electrical signal is generated and transmitted to the measurement unit 19 through the connector, then a glucose level is calculated by a measurement unit 19. The calculated glucose value is displayed on the display panel 7 through the micro-controller unit 17.

The principle of generation of electrical signal relating to the glucose level is according to the disclosure as set forth in the instant specification page 3, line 21 to page 4, line 20 and the instant Fig. 6.

The present invention gives a patient "convenience when used" such as arbitrarily selecting a point of blood collection between the tip of a finger and the point of a forearm, especially enabling the measurement of glucose level through the collection of blood on the point of a forearm without ergonomic inconvenience caused by turning upside down of numbers or icons or excessive bending of the wrist.

The object of Housefield is to give convenience of use to a patient by i) separating a device to monitor a analyte(e.g., glucose) which must be frequently monitored as "portable tester" and a device to monitor other analytes which need not to be monitored as "base" in a medical test apparatus to monitor many analytes in the blood of a patient(e.g., a diabetic) and ii) detachably mounting the portable tester to a base.

Housefield designed an apparatus comprised of a base and a portable tester detachably mounted to the base, and a portable tester is set typically as a glucose meter.

The portable tester can be mounted or docked to the base when necessary, for example, for transmitting of the data of the portable tester to the base unit.

Both the base and the portable tester are provided with a microprocessor (70 for the base; 72 for the portable tester) and a display unit (see 0008), and data link is possible when the portable tester is docketed into the base (see 0007). The portable tester is operable when detached from the base as well as when docketed to the base (see 0008 and 0029).

Data exchange is possible when the portable tester is docked to the base, and the exchanged data includes stored data about the glucose level measured in the portable tester (see 0032).

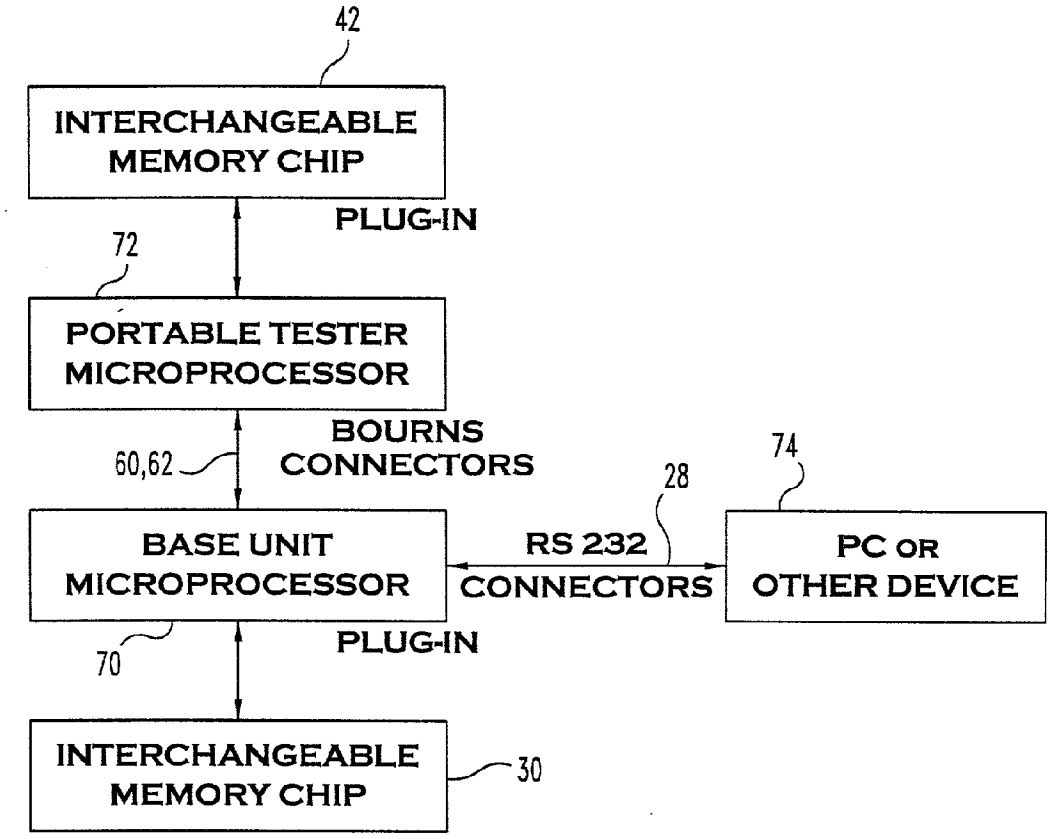

Fig. 2 of Housefield

Housefield's apparatus gives a patient "convenience when used" such as carrying the portable tester(e.g., glucose meter) for frequent monitoring of blood glucose levels alone with leaving the base to monitor other body fluids on a less frequent basis at home or office and the data stored in the portable tester are downloaded to the base and in turn to the computer, then processed and analyzed with the other informations generated through the base (see 0007 and 0011). In addition, a portable tester that is lost or malfunctions can be economically replaced without replacing the base unit. Further, a smaller, more ergonomic and more cost-effective design of portable tester is allowed because much of more comprehensive base unit 12 and/or PC 74 to which portable tester 14 can be linked (see 0035).

Anderson's objective is to provide a medical analyzer to analyze a plurality of analytes in the blood sample in the spot where the sample is collected.

Anderson's device is comprised of base unit, a plurality of modules, a plurality of sensor modular interface unit for connecting and interfacing between said base and said plurality of modules and said plurality of removable modules and common output devices.

Each of modules is designed to insert the disposable strip or cartridge for measuring an analyte. Glucose meter(denoted as 16 in Fig. 2; page 10, line 37 ~ page 11, line 10) is disclosed as an typical example of modules. Glucose meter 16 comprises a motherboard.

Module 33 as other example of modules is evident to comprise a means to digit and process an electrical signal generated by a disposable strip or cartridge according to the disclosure (Fig. 2; page 11, line 11 ~ page 11, line 24).

Anderson's module can operate independently and comprises a means to calculate the analyte's concentration which corresponds to the measurement unit of the present invention. However, each module is not provided with its own display device. Therefore, the information generated through each module is transmitted through the interface to the base's CPU and processed and displayed through a common output device.

The Anderson's analyzer is equipped with a automatic calibration system, and is enabled to provide the informations on a variety of analytes in the blood sample on the spot where the blood sample is collected.

A comparison of the present invention with Housefield clearly demonstrates the patentability of the present invention as now claimed.

The present invention's objective is to give users convenience such as easy-reading of a glucose level displayed in a display panel when measuring through collecting blood on a point of forearm as well as at the tip of a finger.

However, Housefield's device enabled a patient to carry a portable tester requiring frequent use such as glucose meter with him/her by separating it from the analyzer to analyze a variety of analytes Housefield in condition that data-linking between the base and the portable tester is possible. Further, Housefield enables the portable tester to be smaller and to be replaced with new one alone.

That is to say, Housefield is not invented to improve the inconveniences of a glucose meter itself when using the glucose meter as does the present invention.

The present invention is directed to a glucose meter itself, on the contrary, Housefield is to provide a complexed analyzer to measure a variety of analytes including a glucose

meter as one component, and the improvement lies in that the glucose meter is detachably mounted to the base to form the complexed analyzer.

The glucose meter presented as a portable tester in Fig. 6 of Housefield is the same as the one of Fig. 1 of the instant application which is prior art having only one receiving hole.

The present invention is directed to a new glucose meter and improved glucose meter. Housefield discloses a glucose meter as a mere component of the complexed analyzer. Housefield's glucose meter is denoted as "portable tester (14 in Fig. 1)". Furthermore, Housefield does not disclose a glucose meter comprising an additional receiving hole and an additional connector.

Considering the combined analyzer (including glucose meter), Housefield has two receiving slots for test strips.

However, the references have two microprocessors to digitize by calculating an electrical signal from a test strip of cartridge (denoted as "measurement unit" in the present invention; "microprocessor" in Housefield).

The present glucose meter is not operable when two strips are inserted into both receiving holes.

As recited in the amended claim 1, when one measurement strip is inserted and connected to one connector, the micro-controller unit transmits a signal of measurement-possible to said one connector and simultaneously, a signal of measurement-impossible to the other connector to which a measurement strip is not connected. And, another measurement strip is inserted and connected to said the other connector, the glucose meter is not operable to measure glucose level when a blood sample is introduced.

The present glucose meter is provided with an additional receiving hole and connector not to provide information about a plurality of analytes, but to provide user convenience as disclosed above.

On the contrary, the above measuring principle is not applied to Housefield. Since the portable tester is operable when docked to the base as well as when undocked, the portable tester and the base of Housefield are operable independently, even if the port 38(corresponding to the instant receiving hole) of the portable tester and the slot 16(corresponding to the instant receiving hole) of the base are inserted with test strips.

Anderson's objective is far away from the present invention's objective. Anderson's device aimed at a point-of-care analyzer to analyze a variety of analytes in the blood sample without carrying the sample to the laboratory.

Namely, Anderson's objective is to provide "a point-of-care blood-gas analyzer" to analyze a plurality of analytes at one time for a short time.

The present invention is directed to a glucose meter itself, on the contrary, Anderson is to provide a complexed analyzer to analyze simultaneously several samples and/or conducting several electrochemical, electrical, optical, or mechanical analysis simultaneously, which includes a glucose meter as one component.

The present invention is directed to a new glucose meter and improved glucose meter.

Anderson discloses a glucose meter as a mere component combined with the complexed analyzer.

Anderson's glucose meter is denoted module 16 (Fig. 1).

Furthermore, Anderson does not disclose a glucose meter (module 16) comprising an additional receiving hole and connector and its own display unit.

Considering the combined analyzer (including glucose meter(module 16)), Anderson can have at least two receiving holes(or receptacles) and connectors.

However, Anderson must have at least two means to digitize by calculating an electrical signal from a test strip of cartridge (denoted as "measurement unit" in the present invention; "mother board" or a means disclosed regarding module 33(page 11, line 22) in Anderson).

The glucose meter of the present invention is not operable when two strips are inserted into both receiving holes.

On the contrary, Anderson provides a device to measure a plurality of analytes at one time. Anderson's analyzer includes several interchangeable modules that allow the user to analyze several samples or analyze one sample for several predetermined criteria at the point-of-care without extended delays (page 9, lines 11-14), and the modules let a disposable cartridges or a test strip be inserted with(page 6, lines 13-28). Therefore, Anderson's device is evident to be operable when a plurality of strips or cartridges is inserted into corresponding modules.

The objective of the present invention is different from the references as presented above in detail.

The subject matter of the present invention is different from the references.

The present invention is about the improvement to the prior normal glucose meter. The improvement comprises an additional lower hole formed at the lower end of the glucose meter body and the lower connector added to the prior glucose meter having one

receiving hole at the upper end of the glucose meter body and one connector.

The references disclose a glucose meter as just one component of the analyzer to measure a variety of analytes. The improvements of the references lie in the combination itself. The essence of Housefield or Anderson is how to combine a plurality of testers (or modules) into one device to analyze a plurality of analytes with accomplishing “convenience when used” in need thereof such as in case of Housefield.

The present glucose meter has two receiving holes at the upper and lower ends and two connectors in the field of glucose meter. The references do not disclose the problem and the solution of the present invention. A glucose meter as claimed is not disclosed in the references.

The most important feature of the present invention lies in the fact that although the present glucose meter has two receiving holes, only one hole is used at a time. If two holes are used or inserted with two strips, the glucose meter is not operable.

Referring to amended claim 1 and the specification, page 11, lines 16-21, the present invention is a glucose meter to measure only one sample, not a plurality of samples at one time. The present glucose meter is designed to give one user “convenience when used” as described above.

Contrary to the foregoing, the references are designed to analyze a plurality of analytes in the blood sample collected from one person. Therefore, every receptacle of Housefield or Anderson can be inserted with test strips or cartridges and must be used especially in case of Anderson. The device of Housefield or Anderson with every receptacles (or holes) inserted with

strips or cartridges are operable and generate an information on a plurality of analytes to measure.

An earnest and thorough attempt has been made by the undersigned to resolve the outstanding issues in this case and place same in condition for allowance. If the Examiner has any questions or feels that a telephone or personal interview would be helpful in resolving any outstanding issues which remain in this application after consideration of this amendment, the Examiner is courteously invited to telephone the undersigned and the same would be gratefully appreciated.

It is submitted that the claims as amended herein patentably define over the art relied on by the Examiner and early allowance of same is courteously solicited.

If any fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

Respectfully submitted,

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